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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,587	10/14/2003	Joseph W. Schaffer		7671

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EXAMINER	
HUNNINGS, TRAVIS R	

ART UNIT	PAPER NUMBER
2632	

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/683,587	**Applicant(s)** SCHAFFER ET AL.
	Examiner Travis R Hunnings	**Art Unit** 2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because figure 1 is not descriptive and does not contain labels for the elements represented by blocks; also elements '1' and 'L' are not shown in figure 1 as described in the specification; finally the drawings show the echoes of the electromagnetic pulse coming from the bottom of the probe which is contrary to both the specification and the claims which describe the echoes coming from the top of the product in the vessel. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Apparatus For Detecting The Level And Other Physical Properties Of A Product In A Container.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bletz et al. (Bletz; US PGPUB 2004/0140814) in view of Francia (US PGPUB 2003/0097937).

Regarding claim 1, Bletz discloses *Level Meter* that has the following claimed subject matters:

The claimed level sensor comprising a conductive probe extending into the vessel is met by the conductor assembly of the level meter as shown in figure 6 (paragraph 27);

The claimed level sensor comprising means for generating and sending short electromagnetic pulses down the probe is met by the signal generator of the level meter providing electromagnetic pulses to be sent down the conductor assembly (paragraph 27);

The claimed level sensor comprising means for reception of echoes of the pulses reflected at a surface of the product is met by the evaluation electronics of the level meter receiving the echoes of the electromagnetic pulses after they are reflected at a surface of the product in the container (paragraph 26);

The claimed level sensor comprising means for determining a time of flight needed for a pulse to travel down the probe and its echo to return is met by the evaluation electronics of the level meter determining the runtime of the electromagnetic pulse from the generator down the conductor assembly and back, after reflection at the level of the product (paragraph 26);

The claimed level sensor comprising a pressure sensor mounted on the probe is met by the pressure transducer of the level meter that is mounted on the conductor assembly (paragraph 32);

However, Bletz does not specifically disclose the level sensor comprising a signal processing unit for determining mass, weight, volume, level and/or density based on measurement signals supplied by the level sensor and the pressure sensor. Francia discloses *Fermentation Apparatus For Automated Wine Making* that teaches an apparatus that has a processing means that uses a level sensor and a single pressure sensor to determine the level and density of a product that is held in a container (abstract and claim 9). Implementing a processing means in the level meter of Bletz that would use the level and pressure values that were sensed to determine the density of the product in order to gain more information about the product that is contained. It would also be obvious to one of ordinary skill to use the density of the material and the size of the container to determine the mass, weight and volume of the product in order to have more information regarding the product that is contained. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Bletz according to the teachings of Francia to add a signal processing unit to determine the density, mass, weight, volume and/or level of the product contained in the vessel.

Regarding claim 2, Bletz and Francia disclose all of the claimed limitations. The claimed transmitter comprising at least one temperature sensor integrated in the probe is met by the level meter of Bletz having more than one transducer that can detect pressure, temperature or conductivity (paragraph 9).

6. Claims 3-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bletz in view of Francia and further in view of Duenas (US Patent 6,336,362).

Regarding claim 3, Bletz and Francia disclose all of the claimed limitations except for the claimed transmitter comprising a communication interface for reception and/or delivery of information to a user, a supplier and/or a control unit. Duenas discloses *Method And System For Measuring And Remotely Reporting The Liquid Level Of Tanks And The Usage Thereof* that teaches a communication interface for a level meter that is set up to both receive and transmit information from the level meter to a central location (abstract and col4 12-20). Adding a communication interface to the device of Bletz and Francia would allow a user at a central location to monitor the level of multiple containers that are located remotely from the central location and would make it easier to have accurate, up to date records of the product contained in multiple containers. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Bletz and Francia according to the teachings of Duenas to have a communication interface for reception and/or delivery of information to a user, a supplier and/or a control unit.

Regarding claim 4, Bletz and Francia disclose all of the claimed limitations except for the claimed transmitter comprising a totalizer for totalizing supplies or withdrawals of the product. Duenas teaches a system that has a transmitter with a level sensor that has a central location that keeps track of the supply and usage of a product contained in a remote container (abstract). Adding a system to remotely monitor the supply and usage of the product in the container would allow a user to track the usage statistics of the product and prevent the product from running out by scheduling refills when the level gets low. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Bletz and Francia according to the teachings of Duenas to include a system to keep track of the supplies or withdrawals of the product.

Regarding claim 5, Bletz and Francia disclose all of the claimed limitations except for the claimed transmitter comprising a monitor for monitoring unauthorized supply of withdrawal of product and leakage. Duenas teaches a system that has a transmitter with a level sensor that keeps track of the supply and usage and also to protect against fraudulent situations such as unauthorized withdrawal or supply and leakage (abstract). Adding a system to remotely monitor the supply and usage of the product in the container would allow a user to ensure the proper use of the product contained in the container and would protect against fraud and other unsafe conditions such as leakage. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Bletz and Francia according to the teachings of Duenas to include a system to monitor for unauthorized supply of withdrawal of product and leakage.

Regarding claim 7, the claim is interpreted and rejected as claim 3 stated above. The claimed integral server is met by the communications interface using the 'internet' which inherently has integral servers to facilitate the transfer of information between computers.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bletz in view of Francia and further in view of Johnson et al. (Johnson; US Patent 6,553,336).

Regarding claim 6, Bletz and Francia disclose all of the claimed limitations except for the claimed transmitter comprising a device for determining a physical position of the transmitter. Johnson discloses *Smart Remote Monitoring System And Method* that teaches a remote monitoring system that has a remote station with a transducer that detects conditions at the remote site, and when an event occurs that requires action, an event signal is sent along with the location of the transducer using a GPS signal (col14 31-46). Providing the device of Bletz and Francia with a remote communication device that sends out a GPS signal and an event signal when an event occurs that requires action would allow remote users to be alerted to the need of action and provide them with the location of the transducer that sent the signal. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Bletz and Francia according to the teachings of Johnson to comprise a device for determining a physical position of the transmitter.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brown, USP 3,656,134
Dieulesaint et al. USP 4,765,186
Wilen et al. USP 4,949,572
Kielb et al. USP 5,847,567
Masar et al. USP 6,700,503

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRH

DANIEL WU
SUPERVISORY PATENT EXAMINER
03/06/05